



Computer Science (COMP) 489

Distributed Computing (Revision 3)

Status: Replaced with new revision, see the **course listing** [↗](#) for the current revision **✖**

Delivery mode: Individualized study online [↗](#)

Credits: 3

Area of study: Science

Prerequisites: (COMP 347 or COMP 348) and (COMP 272 or COMP 308).

Precluded: None

Challenge: COMP 489 is not available for challenge.

Faculty: Faculty of Science and Technology [↗](#)

Notes:

Students who are concerned about not meeting the prerequisites for this course are encouraged to contact the **course coordinator** before registering.

COMP 489 sample [↗](#)

Overview

COMP 489 is designed to teach students the principles and practices of programming in Java for networks, internetworks, and distributed systems.

Outline

- Unit 0: Setting up Your Development Environment
- Unit 1: Introduction to Distributed Systems
- Unit 2: Developing Distributed Applications in Java
- Unit 3: Thread, Process, and IPC
- Unit 4: Networking in Java
- Unit 5: Concurrency Control
- Unit 6: Distributed Objects and Object-based Systems
- Unit 7: Distributed Databases and the Java Database Connectivity (JDBC) API
- Unit 8: Distributed Security and Java Security
- Unit 9: Web Services

Learning outcomes

Upon successful completion of this course, you should be able to

- analyze the essential features and reference model in distributed systems.
- identify the capacity requirements for distributed systems.
- design distributed application models in object-oriented approaches.
- write multi-threaded programs in Java.
- apply concurrency control and mutual exclusion mechanisms to programs.
- write code using Java networking packages in distributed applications.
- write code to access to relational database systems using JDBC API.
- examine the security issues in distributed application and write code using Java Security API.
- implement an integrated distributed application in a Java environment.

Evaluation

To **receive credit** [🔗](#) for COMP 489, you must achieve a course composite grade of at least **D (50 percent)** [📄](#), including an average grade of 50 percent on all coursework and at least 50 percent on the final examination.

The weighting of the composite grade is as follows:

Activity	Weight
Assignment 1	15%

Activity	Weight
Assignment 2	20%
Assignment 3	20%
Quiz	5%
Final Exam	40%
Total	100%

The **final examination** for this course must be requested in advance and written under the supervision of an AU-approved exam invigilator. Invigilators include either ProctorU or an approved in-person invigilation centre that can accommodate online exams. Students are responsible for payment of any invigilation fees. Students are responsible for payment of any invigilation fees. Information on exam request deadlines, invigilators, and other exam-related questions, can be found at the **Exams and grades** [↗](#) section of the Calendar.

To learn more about assignments and examinations, please refer to Athabasca University's **online Calendar** [↗](#).

Materials

This course either does not have a course package or the textbooks are open-source material and available to students at no cost. This course has a **Course Administration and Technology Fee** [↗](#), but students are not charged the Course Materials Fee.

Readings for this course will be taken from Internet sources, including Wikipedia, e-books, Sun Java tutorials, etc.

The rest of the learning materials for COMP 489 are distributed in electronic format. These materials include:

- a *Study Guide*.
- detailed instructions for individual tutor-marked assignments.
- a course evaluation form.

Other Course Features

This course is a prerequisite to **COMP 495/COMP 496** CIS projects course. It will provide the student with some guided individual work prior to the student taking on a more independent project(s) course.

Important links

- › **Academic advising** [↗](#)
- › **Program planning** [↗](#)
- › **Request assistance** [↗](#)
- › **Support services** [↗](#)

Athabasca University reserves the right to amend course outlines occasionally and without notice. Courses offered by other delivery methods may vary from their individualized study counterparts.

Opened in Revision 3, May 25, 2011

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View **previous revision** [↗](#)
